

- 1) Here are the first five terms of an arithmetic sequence.

1      3      5      7      9

Find, in terms of  $n$ , an expression for the  $n$ th term of this sequence.

- 2) Here are the first five terms of an arithmetic sequence.

6      10      14      18      22

Find, in terms of  $n$ , an expression for the  $n$ th term of this sequence.

- 3) Here are the first five terms of an arithmetic sequence.

1      4      7      10      13

Find, in terms of  $n$ , an expression for the  $n$ th term of this sequence.

- 4) Here are the first five terms of an arithmetic sequence.

7      12      17      22      27

Find, in terms of  $n$ , an expression for the  $n$ th term of this sequence.

- 5) Here are the first five terms of an arithmetic sequence.

8      6      4      2      0

Find, in terms of  $n$ , an expression for the  $n$ th term of this sequence.

- 1) Here are the first four terms of an arithmetic sequence.

4    7    10    13

Find an expression, in terms of  $n$ , for the  $n$ th term of the sequence.

- 2) The  $n$ th term of a number sequence is  $n^2 + 3$   
Write down the first three terms of the sequence.

- 3) Here are the first five terms of an arithmetic sequence.

2    7    12    17    22

- a) Find, in terms of  $n$ , an expression for the  $n$ th term of this sequence.
- b) An expression for the  $n$ th term of another sequence is  $11 - n^2$
- (i) Find the third term of this sequence.
- (ii) Find the fifth term of this sequence.

- 4) The  $n$ th term of a sequence is  $2n^2$
- (i) Find the 4th term of the sequence.
- (ii) Is the number 400 a term of the sequence?
- Give reasons for your answer.

- 1) The  $n$ th term of a number sequence is given by  $4n + 1$   
 a) Work out the first **two** terms of the number sequence.

Here are the first four terms of another number sequence.

1 4 7 10

- b) Find, in terms of  $n$ , an expression for the  $n$ th term of this number sequence.

- 2) Here is a number pattern.

Line Number			
<b>1</b>	$1^2 + 3^2$	$2 \times 2^2 + 2$	10
<b>2</b>	$2^2 + 4^2$	$2 \times 3^2 + 2$	20
<b>3</b>	$3^2 + 5^2$	$2 \times 4^2 + 2$	34
<b>4</b>			
.			
.			
<b>10</b>			

- a) Complete Line Number 4 of the pattern.  
 b) Complete Line Number 10 of the pattern.  
 c) Use the number pattern to find the answer to  $999^2 + 1001^2$